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NISSAN X-TRAIL

MODEL T30 SERIES

QUICK REFERENCE INDEX

A	GENERAL INFORMATION	GI	General Information
B	ENGINE	EM	Engine Mechanical
		LU	Engine Lubrication System
		CO	Engine Cooling System
		EC	Engine Control System
		FL	Fuel System
		EX	Exhaust System
		ACC	Accelerator Control System
C	TRANSMISSION/ TRANSAXLE	CL	Clutch
		MT	Manual Transaxle
		AT	Automatic Transaxle
D	DRIVELINE/AXLE	TF	Transfer
		PR	Propeller Shaft
		RFD	Rear Final Drive
		FAX	Front Axle
		RAX	Rear Axle
E	SUSPENSION	FSU	Front Suspension
		RSU	Rear Suspension
		WT	Road Wheels & Tires
F	BRAKES	BR	Brake System
		PB	Parking Brake System
		BRC	Brake Control System
G	STEERING	PS	Power Steering System
H	RESTRAINTS	SB	Seat Belts
		SRS	Supplemental Restraint System (SRS)
I	BODY	BL	Body, Lock & Security System
		GW	Glasses, Window System & Mirrors
		RF	Roof
		EI	Exterior & Interior
		IP	Instrument Panel
		SE	Seat
J	AIR CONDITIONER	ATC	Automatic Air Conditioner
		MTC	Manual Air Conditioner
K	ELECTRICAL	SC	Starting & Charging System
		LT	Lighting System
		DI	Driver Information System
		WW	Wiper, Washer & Horn
		BCS	Body Control System
		LAN	LAN System
		AV	Audio, Visual & Telephone System
		ACS	Auto Cruise Control System
		PG	Power Supply, Ground & Circuit Elements
L	MAINTENANCE	MA	Maintenance
M	INDEX	IDX	Alphabetical Index

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A B C D E F G H I J K L M

FOREWORD

This manual contains maintenance and repair procedure for the 2005 NISSAN X-TRAIL.

In order to assure your safety and the efficient functioning of the vehicle, this manual should be read thoroughly. It is especially important that the PRECAUTIONS in the GI section be completely understood before starting any repair task.

All information in this manual is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

IMPORTANT SAFETY NOTICE

The proper performance of service is essential for both the safety of the technician and the efficient functioning of the vehicle.
The service methods in this Service Manual are described in such a manner that the service may be performed safely and accurately.
Service varies with the procedures used, the skills of the technician and the tools and parts available. Accordingly, anyone using service procedures, tools or parts which are not specifically recommended by NISSAN must first be completely satisfied that neither personal safety nor the vehicle's safety will be jeopardized by the service method selected.

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Technical Service Information
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FAX: (248) 488-3910

SERVICE MANUAL: Model: ____________________ **Year:** ____________________

PUBLICATION NO. (Refer to Quick Reference Index): ____________________________

Please describe any Service Manual issues or problems in detail:

Page number(s) ________________ *Note: Please include a copy of each page, marked with your comments.*

Are the trouble diagnosis procedures logical and easy to use? (circle your answer) YES NO

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INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	mm	inches	mm
.100	**2.54**	.610	**15.49**
.110	**2.79**	.620	**15.75**
.120	**3.05**	.630	**16.00**
.130	**3.30**	.640	**16.26**
.140	**3.56**	.650	**16.51**
.150	**3.81**	.660	**16.76**
.160	**4.06**	.670	**17.02**
.170	**4.32**	.680	**17.27**
.180	**4.57**	.690	**17.53**
.190	**4.83**	.700	**17.78**
.200	**5.08**	.710	**18.03**
.210	**5.33**	.720	**18.29**
.220	**5.59**	.730	**18.54**
.230	**5.84**	.740	**18.80**
.240	**6.10**	.750	**19.05**
.250	**6.35**	.760	**19.30**
.260	**6.60**	.770	**19.56**
.270	**6.86**	.780	**19.81**
.280	**7.11**	.790	**20.07**
.290	**7.37**	.800	**20.32**
.300	**7.62**	.810	**20.57**
.310	**7.87**	.820	**20.83**
.320	**8.13**	.830	**21.08**
.330	**8.38**	.840	**21.34**
.340	**8.64**	.850	**21.59**
.350	**8.89**	.860	**21.84**
.360	**9.14**	.870	**22.10**
.370	**9.40**	.880	**22.35**
.380	**9.65**	.890	**22.61**
.390	**9.91**	.900	**22.86**
.400	**10.16**	.910	**23.11**
.410	**10.41**	.920	**23.37**
.420	**10.67**	.930	**23.62**
.430	**10.92**	.940	**23.88**
.440	**11.18**	.950	**24.13**
.450	**11.43**	.960	**24.38**
.460	**11.68**	.970	**24.64**
.470	**11.94**	.980	**24.89**
.480	**12.19**	.990	**25.15**
.490	**12.45**	1.000	**25.40**
.500	**12.70**	2.000	**50.80**
.510	**12.95**	3.000	**76.20**
.520	**13.21**	4.000	**101.60**
.530	**13.46**	5.000	**127.00**
.540	**13.72**	6.000	**152.40**
.550	**13.97**	7.000	**177.80**
.560	**14.22**	8.000	**203.20**
.570	**14.48**	9.000	**228.60**
.580	**14.73**	10.000	**254.00**
.590	**14.99**	20.000	**508.00**
.600	**15.24**		

METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

mm	inches	mm	inches
1	.0394	**51**	2.008
2	.079	**52**	2.047
3	.118	**53**	2.087
4	.157	**54**	2.126
5	.197	**55**	2.165
6	.236	**56**	2.205
7	.276	**57**	2.244
8	.315	**58**	2.283
9	.354	**59**	2.323
10	.394	**60**	2.362
11	.433	**61**	2.402
12	.472	**62**	2.441
13	.512	**63**	2.480
14	.551	**64**	2.520
15	.591	**65**	2.559
16	.630	**66**	2.598
17	.669	**67**	2.638
18	.709	**68**	2.677
19	.748	**69**	2.717
20	.787	**70**	2.756
21	.827	**71**	2.795
22	.866	**72**	2.835
23	.906	**73**	2.874
24	.945	**74**	2.913
25	.984	**75**	2.953
26	1.024	**76**	2.992
27	1.063	**77**	3.031
28	1.102	**78**	3.071
29	1.142	**79**	3.110
30	1.181	**80**	3.150
31	1.220	**81**	3.189
32	1.260	**82**	3.228
33	1.299	**83**	3.268
34	1.339	**84**	3.307
35	1.378	**85**	3.346
36	1.417	**86**	3.386
37	1.457	**87**	3.425
38	1.496	**88**	3.465
39	1.535	**89**	3.504
40	1.575	**90**	3.543
41	1.614	**91**	3.583
42	1.654	**92**	3.622
43	1.693	**93**	3.661
44	1.732	**94**	3.701
45	1.772	**95**	3.740
46	1.811	**96**	3.780
47	1.850	**97**	3.819
48	1.890	**98**	3.858
49	1.929	**99**	3.898
50	1.969	**100**	3.937

QUICK REFERENCE CHART X-TRAIL

PFP:00000

ENGINE TUNE-UP DATA (QR25DE)

ELS0003W

Engine model			QR25DE
Firing order			1-3-4-2
Idle speed A/T (In P or N position) M/T (In Neutral position)		rpm	700±50
Ignition timing (BTDC at idle speed) A/T (In P or N position) M/T (In Neutral position)			15°± 5°
CO% at idle			0.3 - 9.5 % and engine runs smoothly
Drive Belt	Tension of drive belt		Auto adjustment by auto-tensioner
Radiater cap relief pressure		kPa (kg/cm^2 , psi)	
	Standard		78 - 98 (0.8 - 1.0, 11 - 14)
	Limit		59 (0.6, 9)
Cooling system leakage testing pressure		kPa (kg/cm^2 , psi)	157(1.6, 23)
Compression pressure		kPa (kg/cm^2 , psi)/rpm	
	Standard		1,250 (12.8, 181) /250
	Minimum		1,060 (10.8, 154) /250
Spark plug	Make		NGK
	Standard type		PLFR5A - 11
	Hot type		PLFR4A - 11
	Cold type		PLFR6A - 11
	Gap (Nominal)	mm(in)	1.1 (0.043)

FRONT WHEEL ALIGNMENT (Unladen*)

ELS0003X

Camber	Degree minute (Decimal degree)	Minimum	– 0° 54′ (– 0.9°)
		Nominal	– 0° 24′ (– 0.4°)
		Maximum	0° 36′ (0.6°)
		Left and right difference	45′ (0.75°) or less
Caster	Degree minute (Decimal degree)	Minimum	1° 42′ (1.7°)
		Nominal	2° 27′ (2.45°)
		Maximum	3° 12′ (3.2°)
		Left and right difference	45′ (0.75°) or less
Kingpin inclination	Degree minute (Decimal degree)	Minimum	12° 06′ (12.1°)
		Nominal	13° 30′ (13.5°)
		Maximum	13° 36′ (13.6°)
Total toe-in	Distance (A – B)	Minimum	0 mm (0 in)
		Nominal	1 mm (0.04 in)
		Maximum	2 mm (0.08 in)
	Angle (left plus right) Degree minute (Degree)	Nominal	2′ (0.04°)
Wheel turning angle (Full turn)	Inside Degree minute (Decimal degree)	MInimum	36° 00′ (36.0°)
		Nominal	39° 00′ (39.0°)
		Maximum	40° 00′ (40.0°)
	Outside Degree minute (Decimal degree)	Nominal	31° 00′ (31.0°)

* : Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

REAR WHEEL ALIGNMENT (Unladen*)

ELS0003Y

Camber Degree minute (Decimal degree)		Minimum	– 1° 25′ (– 1.42°)
		Nominal	– 0° 40′ (– 0.67°)
		Maximum	0° 05′ (0.08°)
Total toe-in	Distance (A – B)	Minimum	0 mm (0 in)
		Nominal	1 mm (0.04 in)
		Maximum	2 mm (0.08 in)
	Angle (left plus right) Degree minute (Degree)	Nominal	2′ (0.04°)

* : Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

BRAKE

ELS0003Z

Front brake	Pad wear limit	2.0 mm (0.079 in)
	Rotor repair limit	26.0 mm (1.024 in)
Rear brake	Pad wear limit	2.0 mm (0.079 in)
	Rotor repair limit	14.0 mm (0.551 in)
Brake pedal height (front dash lower panel top surface)	M/T model	156 - 166 mm (6.14 - 6.54 in)
	A/T model	164 - 174 mm (6.46 - 6.85 in)
Pedal depressed height*	M/T model	80 mm (3.15 in) or more
	A/T model	85 mm (3.35 in) or more

* : Under force of 490 N(50 kg, 110 lb) with engine running.

REFILL CAPACITIES

ELS00040

UNIT			Liter	US measure	Imp measure
Fuel tank			60	15 - 7/8 gal	13 - 1/4 gal
Coolant (With reservoir tank at "MAX" level)			7.1	7 - 1/2 qt	6 - 1/4 qt
Engine	Drain and refill	With oil filter change	4.1	4 - 3/8 qt	3 - 5/8 qt
		Without oil filter change	3.7	3 - 7/8 qt	3 - 1/4qt
	Dry engine (Overhaul)		4.7	5 qt	4 - 1/8 qt
Transaxle	A/T		8.5	9 qt	7 - 1/2 qt
	M/T		2.3	2 - 3/8 qt	2 qt
Transfer			0.31	5/8 pt	1/2 pt
Differential carrier			0.55	1 - 1/8 pt	1 pt
Power steering system			1.0	1 - 1/8 qt	7/8 qt
Air conditioning system	Compressor oil		0.18	6.0 fl oz	6.3 fl oz
	Refrigerant		0.55 kg	1.21 lb	